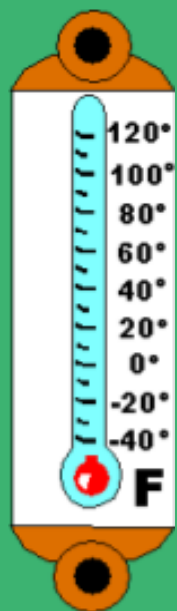
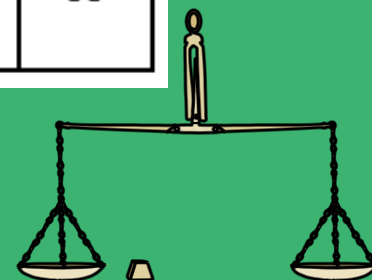


1.2 Measuring



| Curriculum Outcomes | Related Activities | Page in Text |
|--|--|--------------|
| <ul style="list-style-type: none">determine accuracy and precision of a measurementdemonstrate an understanding of the concerns and issues that pertain to the collection of data | <ul style="list-style-type: none">carry out specific measurement activities using an appropriate level of precision | 9 |
| | <ul style="list-style-type: none">discuss and determine the number of digits students feel confident reading and recording when making the same measurement using scales of different fineness | 9 |
| | <ul style="list-style-type: none">investigate, through measuring activities, possible inaccuracies that produce different results | 10 |
| | <ul style="list-style-type: none">relate precision and the number of significant digits for the same measurement | 11 |
| | <ul style="list-style-type: none">perform measurement calculations and report results with appropriate level of precision and significant digits | 11 |



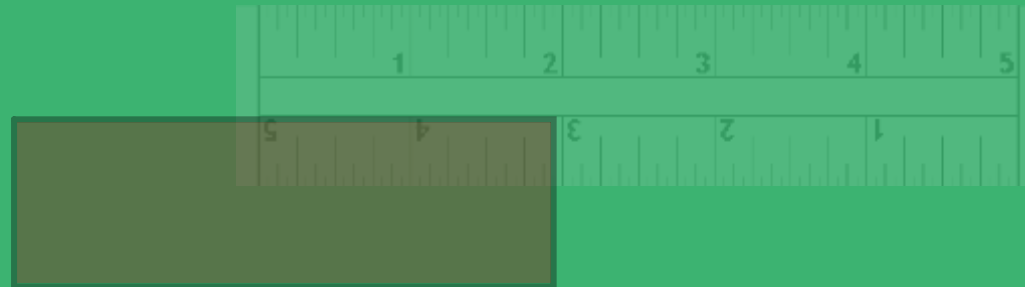
Accuracy

If these shapes are measured multiple times by different people, will everyone find the same measurement?



Precision

Which ruler will give us a more precise measurement of this shape?



Notes

Accuracy: indicates how close the recorded measurement is to the true value. It is dependent upon the user's skill in using the measuring tool.

Precision: is the smallest unit that can be measured with confidence using the measuring tool and is determined by the fineness of the scale on the tool.

Accuracy

The accuracy of a measurement indicates how close the recorded measurement is to the true value. It depends on the user's skill in using the tool.

When measuring with a ruler, you must start at the 0 mark, and look straight down on the ruler in order to get an accurate measurement.

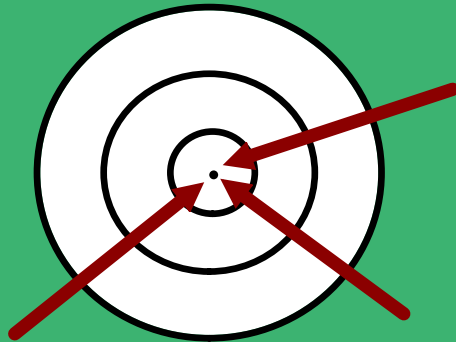
Other factors like temperature, humidity, and the conditions of the tool can also influence accuracy.

Precision

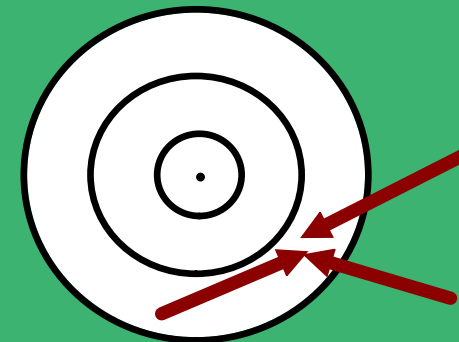
The precision of a measurement is determined by the size of the units that can be measured with confidence using the tool. The smaller the unit, the more accurate the measurement.

How are accuracy and precision alike and different?

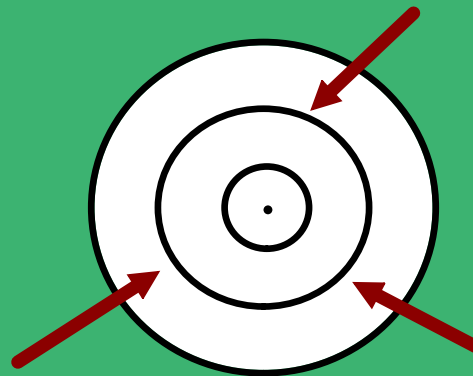
- Example: Arrows on a target



Good accuracy
Good precision



Good precision
Poor accuracy



Poor precision
Poor accuracy

Focus C: Accuracy and Precision

Accuracy:

- three different people using same ruler get different answers.

Precision:

- greater number of digits increases precision.

Classwork:

Do Focus Questions Pg.9 #2,3,4

#2. It is important to use the same tool to measure length and width because then when you find area your answer will be as precise as both measurements.

#3. 100.0 tells us that the measurement is EXACTLY 100m, while 100m means that it might have been rounded.

#4. Should the precision of the calculated measurement be considered the same as the least precise measurement???? Explain.